IMPACTS OF FOREIGN DEBT ON THE ECONOMIC GROWTH OF A COUNTRY:

A case study of Pakistan.

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Abstract:

The study has covered various dimension of an economy. The impacts of external debt on the economy of Pakistan has been observed in the presence of other controlled variables like FDI, remittances and net exports. Time has been taken as explanatory variable to remove the time trend from the estimation. The time series data from 1976 to 2018 have been taken from the source of WDI and various tests for the reliability have been applied before running Ordinary Least Square (OLS) . The results showed that there is a positive and highly significant impact of debt on the economic growth of Pakistan. Other explanatory variables also show the same positive significant relationship with the GDP of Pakistan since 1976.

Background of the study

External debts have possibly different effects on the economic growth of a country. If it is utilized properly, its effects might be fruitful and if it not then it could be lethal and can take the country into the layers of crisis. The concept of giving and taking foreign debts is quite earlier. Since 13th century the countries of the developed world and their banks are lending to the poorer countries. After King Edward-I expelled the Jews in 1290 he needed the Italians to finance his war. To these Italian bankers England was wild developing country on the edge of the world (Hanlon 2016) . Usually a country borrows to finance its various projects and to control and sustain its economic growth which it cannot control through its domestic resources and savings. Countries also borrow when sometimes due to certain reasons, their exports fall and hence they face a deficit in there balance of payment.

Today's external debt has many types, it can be given/taken bilaterally or may be through multilateral institutions like IBRD, IMF and ADB do. Pakistan is among one of those struggling economies which is facing the worst ever debt crisis of its history. The external debts of Pakistan increase at a rate of 7.6% annually. Every Pakistani has a liability of about 66,000 pkr (Asghar 2017). These figures are even more worst now as after 2012-13, the government of Pakistan has taken the loan almost equal to the loan it had taken before since 1950s. According to the World bank report 2000-01, Pakistan is among one of the highly indebted countries HICs . There are several factors which are involved in taking a country into the trap of debt like balance of payment problem, budget deficit problem, natural shocks like sometimes a severe famine and or disaster comes and the problem of energy crisis which compels a country to borrow and fulfil its need of energy. Pakistan is also one of those major oil importing countries which imports millions of barrels of oil form Arabian peninsula and the Persian gulf annually. In the context of Pakistan Other factors which play there rules in the growth of debt may include the poor macroeconomic policies and its improper implementation, corruption, political instability and poor law and order situations.

 According to some researchers, foreign debts have positive impacts on economic growth as if this loan is used for growth related activities, industrial sector and energy sector, can boost

up the economic growth. On the other hands, some researchers do oppose this stance of the formers as they claim that when external debt accumulates beyond a certain limit, it will contract the economic growth by hampering investment. These researchers support the hypothesis of debt overhang which states that high indebtedness discourages investments. Same is the case of Pakistan as many times we have gone for foreign loans and still are in a crippling situations. In 1970 the value of external debt in absolute term was $ 3.4 billion which went to $ 9.93 billion in 1980. The external debt approximately doubled over from 1981 to 1990 and reached to $ 20.66 billion. External debt showed rising trend during 1990-99 as it increased from $ 20.66 billion to $ 33.89 billion. It declined to $ 32.78 billion in 2000 due to debt rescheduling. Then external debt was $ 35.74 billion in 2003, in the last few years external debt increased at an unprecedented rate and reached to $ 54.60 billion in 2010 (Rifaqat, Usman 2012). Other emerging economies like Oman also has negative impacts of its foreign debts on its economic growth. (Sami and Stella 2018) studied the impacts of external debts on the economic growth of Oman and founded that the relationship between external debts and the GDP growth rate was negative and highly significant.

The main purpose of this study is to show whether the economy of Pakistan is a debt oriented economy or it relies more on its own domestic productive sectors. Secondly how much the economic growth of Pakistan has been affected by the external debts, foreign direct investments (FDI) and the remittances sent by the overseas Pakistanis.

Ample of researches have been conducted on this topic and concluded different results (positive or negative relationship between debts and GDP) but this research study also covers that whether it was debt, FDI, remittances or exports who have contributed massively in the economic growth of Pakistan.

The study further composed of literature review in its 2nd section, econometrics methodology and model estimation in the 3rd section, diagnostic tests and Ordinary lest square (OLS) in the 4th, results interpretation in the 5th and in the last section, it has conclusion and policy recommendations.

Literature Review

In the previous studies, researchers have concluded contradictory results for different countries. The results were different irrespective of the rankings of their development, i.e. developed, higher developing, lower developing and least developed countries.

Sami and Mbah (2018) Explained the situation for Oman, a developing economy like Pakistan. According to their study, foreign debts has a negative significant relationship with the economic growth of the country. They further founded that there is a high possibility of debt overhang and crowding out problems in the emerging and developing economies. Their study further pointed out that there is a strong positive relationship between external debts and gross fixed capital formation (GFCF).

Ayadi and Ayadi (2008) have compared the economies of South Africa and Nigeria. They checked and observed the management of external debts by a comparatively good South African economy and by the struggling Nigerian economy. They found that in both of the cases there is a negative relationship between the debts and the economic growth, however South Africa performed better than Nigeria in the application of external loans to promote growth. They further explained that it is basically debt services (cost of debt) that impedes the

economic growth of a country as a high proportion of fiscal budget goes for debt services in these lower developing countries.

Bernardin, Agbemavor and Peter (2018) have gone through the issue of the effects of external debt on the economic growth in the Sub-Saharan African countries. They have collected manual data from 39 countries of SSA from 1990 to 2013 and applied Generalized Method of Moments (GMM) estimation technique. They have found that external debt has negatively affected and has directly impeded the economic growth in SSA countries.

Mohammad, Mohammad and Suman (2012) have explored the relationship between the external debt (ED) and GDP in Bangladesh. They have taken timeseries data for the period 1972-2010 and applied the time-series econometric technique. There results supported the stance of "positive impacts of foreign debt on economic growth of a country". They have founded that there exists a positive and significant correlation between debt and the economic growth of Bangladesh.

Ali, Ali and Mohamed (2018) have studied the "effects of Foreign Debt and Foreign Aid on economic growth in Somalia". They have taken the data from 1970 to 2014 and applied Ordinary Least Square (OLS) method and the basic model assumption tests. For long-run relationship between the variables, they used Johansen cointegration test. There results justified that there is insignificant relationship between foreign debts and economic growth and a positive significant relationship between foreign aid and economic growth.

Sadia and Hafiz (2015) have analyzed "Impacts of public external debt on social spending" and took seven developing Asian countries (Pakistan, India, Bangladesh, Sri Lanka, Nepal, Philippines and Indonesia). They have taken the data from 1980 to 2010 and applied the method of general moments. They have concluded that the outstanding external debt and its servicing cost have an adverse impact on public spending, and particularly on social sector.

Inna and Viktoriia (2018) have also worked on the same topic for emerging economies for the period 2008-2016 using various econometrics tools like ADL model and correlation analysis. There results showed that the original values had no significant impacts on the estimation of the parameters which implied that external debt has also no impacts on economic growth. The authors have found that high level of external debt, if there is a macroeconomic instability in the country, impedes economic growth here. The regression model has also confirmed that there is a critical level of debt burden for emerging economies, where the marginal impact of external debt on economic growth becomes negative.

Dar and Atul (2014) have worked on 23 OECD countries and categorized it into four groups on the basis of there average Debt-to-GDP ratios for the period 1996 to 2007. They have used a general empirical methodology and found that debt has a negative but very small and insignificant impacts on economic growth in almost all the strata they have stratified.

Ramesh and Nelson (2009) have examined the case for Sri Lankan economy. They have studied the impacts of external debt, trade openness and labour force in the economic growth of Sri Lanka by applying Johansen maximum likelihood approach of cointegration. They analysed the data for the period 1950 to 2006 and found that there is a positive relationship between trade openness, Foreign debts and economic growth. Results further revealed that it is labour force which is the major contributor to the economic growth of Sri Lanka.

Amara, Abdur, et al (2016) have covered the same issue of the impacts of public debt and economic growth of Pakistan and taken the data from 1972 to 2013. To test the model, Bound test for cointegration is applied on that time series data. The empirical results of their study suggest that public debt and economic growth have a positive and insignificant relationship.

Rabia and Kamran (2012) have also worked on the impacts of domestic and external debt on the economic growth of Pakistan and have taken time series data from 1980 to 2010 using ordinary least square (OLS) approach to cointegration, unit root testing, serial correlation testing, test for checking heteroskedasticity and CUSUM test of stability. Their findings suggested an inverse relationship between domestic and external debt with economic growth of Pakistan. Relationships were highly significant.

Econometric model and methodology

The OLS method of model estimation has been used in the study while taking GDP is response variable and the other four variables i.e. external debt, FDI, remittances and net exports have been used as explanatory variable. Time has been taken as explanatory variable so that the problem of time trend is removed from estimation of the model.

$$GDP = f\ (External\ debt,\ FDI,\ NX,\ Rem,\ Time)$$

or model can be written as;

$$GDP = \beta_{o} + \beta_{1}ED + \beta_{2}FDI + \beta_{3}NX + \beta_{4}Rem + \beta_{5}T + \mu_{1}$$

GDP is the gross domestic product used as response variables.

ED is the used for external debt.

FDI is used for foreign direct investment.

NX is used for net exports.

Rem is used for remittances.

FDI, net exports and remittances have been used as controlled variables.

β_{o} is the Y intercept.

β_{1}, β_{2}, β_{3}, β_{4} and β_{5} are the coefficients of the variables ED, FDI, NX, Remittances and time respectively which show the degree of change in the outcome variable (dependent variable) for every one-unit change in the predictor variable (independent variable).

μ_{1} is the error term.

Growth has many factors on which it depends. Some of the factors have been used to analyze the economic growth of Pakistan. GDP growth rate measures how past the economy is growing. It compares the production at the current quarter of the year with the previous quarter and show the percentage change in this tenure. It has further four components based on which its measurement take place. These are Consumption, Investment, Government

expenditure and Net exports. In the study the data of GDP of Pakistan have been taken from the source of WDI for the period 1985 to 2018 and have been analyzed.

External debt is the total private and public foreign debt owed by a country (Todaro, M and Smith, S 2009). As the name indicates that it is the total liabilities a country owes to foreign creditors. It can be bilateral i.e. taken from a donor country directly or may be multilateral i.e. taken from international organizations like IMF and World Bank to which there are many developed donors. The debtor can be the government, corporations, or citizens of a country. It is usually taken by the governments to finance their budgets which they cannot finance through its domestic savings or by corporations to finance their needs of productions. Foreign direct investment or simply FDI means overseas equity investments by private multinational corporations (Todaro, M and Smith, S 2009). It is basically an investment in which the total or partial ownership of a business in a country is controlled by the people or governments or organizations of the other countries. Net exports are the value of goods and services sold to other countries minus the values of goods and services that foreigners sell us (Mankiw, G 2009). Increasing its value lead towards trade surplus and decreasing its value lad toward a trade deficit. Remittances is the transfer of money by foreigners to their home countries. As discussed earlier, Pakistan receives billions of dollars annually in the form of remittances from the middle east, European and American countries. The study has taken data of all the variables from 1976 to 2018 for Pakistan from the source of World Bank (WDI) and have analyzed through ordinary least square.
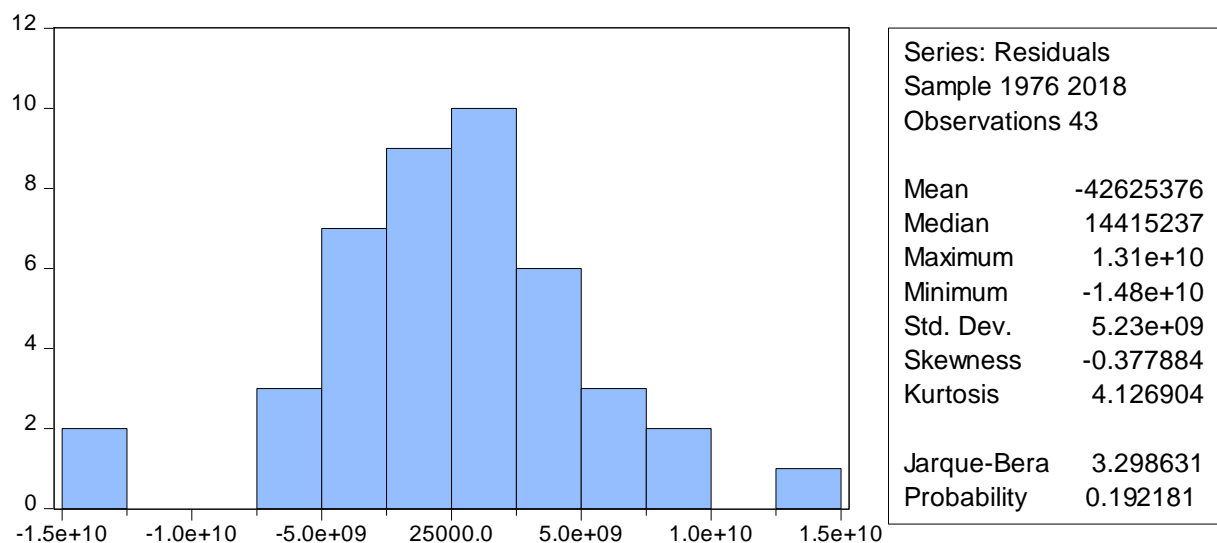
Breusch-pagan-Godfrey test for Heteroskedasticity

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.959532	Prob. $F_{(5,37)}$	0.4550
Obs*R-squared	4.935667	Prob. Chi-Square(5)	0.4238
Scaled explained SS	4.843494	Prob. Chi-Square(5)	0.4353

The above values suggest that there is no heteroskedasticity in the model as the value off the probability exceeds 0.05 i.e. 5% level of alpha.

Jarque-Bera test for Normality

Series: Residuals	
Sample 1976 2018	
Observations 43	
Mean	-42625376
Median	14415237
Maximum	1.31e+10
Minimum	-1.48e+10
Std. Dev.	5.23e+09
Skewness	-0.377884
Kurtosis	4.126904
Jarque-Bera	3.298631
Probability	0.192181

The given test suggest that there is no problem of normality in the model. The lesser value than four of Jarque-Bera and the greater value of probability asserts that observations are normally distributed.

Augmented Dickey-Fuller (Unit Root Test) for Stationarity

Variables	Level (probability)	First difference (probability)	Integration
GDP	1.0000	0.0000	*I(1)*
Debt	0.9993	0.0064	*I(1)*
FDI	0.0378	---	*I(0)*
Net exports	0.9679	0.000	*I(1)*
Remittances	1.0000	0.0032	*I(1)*

The above values of probabilities suggest that the data of all the variables are stationary at first difference except FDI which is stationary at level at 5% of alpha.

Ordinary least square (OLS)

Dependent Variable: GDP
Method: ARMA Maximum Likelihood (OPG - BHHH)
Date: 01/16/20   Time: 20:03
Sample: 1976 2018
Included observations: 43
Convergence achieved after 24 iterations
Coefficient covariance computed using outer product of gradients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8.33E+11	6.74E+11	-1.235339	0.2252
DEBT	1.097021	0.250823	4.373688	0.0001
FDI	5.156001	1.391282	3.705934	0.0007
REMITTANCES	7.352284	0.416572	17.64947	0.0000
EXPORTS	1.149360	0.449646	2.556145	0.0152
TIME	4.18E+08	3.41E+08	1.225570	0.2288
AR(1)	0.038622	0.698187	0.055317	0.9562
MA(1)	0.254338	0.688545	0.369385	0.7141
SIGMASQ	2.67E+19	5.68E+18	4.695832	0.0000

R-squared	0.996557	Mean dependent var	1.01E+11
Adjusted R-squared	0.995747	S.D. dependent var	8.91E+10
S.E. of regression	5.81E+09	Akaike info criterion	47.98917
Sum squared resid	1.15E+21	Schwarz criterion	48.35780
Log likelihood	-1022.767	Hannan-Quinn criter.	48.12511
F-statistic	1230.041	Durbin-Watson stat	1.953619
Prob(F-statistic)	0.000000		

Inverted AR Roots	.04
Inverted MA Roots	-.25

From the above table, we can conclude that all the five explanatory variables have a strong positive impacts on the economy of Pakistan. The positive sign of the coefficient of debt and its probability value 0.0001 suggests that debt has positively and significantly affected the economic growth of Pakistan since 1976.

Similarly FDI which also has positive sign of its coefficient and has a lower probability value of 0.0007 which asserts a its high intervention in the economic growth of Pakistan in a positive way. Remittances, which has the lowest value of its probability mean it has also a greater role in the boosting of the economy. Its probability value and the positive sign of its coefficient justifies the claim. Exports also has positively affected the economic growth of Pakistan and the level of significance is also high but as compared to the other variables its significance is small which implies that it has a lesser role in the growth comparatively.

The value of R^2 suggests that the model is highly good fit i.e. these are the factors on which the economy Pakistan strongly relies.

The value of Durbin Watson after applying ar(1) ma(1) suggest that there is no autocorrelation in the model.

Conclusion

The study has been conducted that whether the growth of Pakistan since 1976 was real or debt oriented. The given tests and there results explain that all the five variables have positively affected economic growth of Pakistan. In the given study the economic growth of Pakistan has been studied in the lights of 4 independent variables which are debts, FDI, remittances and exports. To remove the problem of time trend, time is also taken as an explanatory variable. Before running OLS, various tests have been applied i.e. Jarque-bera test for normality, Breusch-pagan-Godfrey test for Heteroskedasticity and Unit root test for stationarity.
After that OLS has been applied on the data taken from the source of World Bank for the period 1976 to 2018 and it has been found that all the explanatory variables have positively affected the economic growth of Pakistan. Among all the explanatory variables remittances have the highest value of influence on the economy of the Pakistan. Debt comes next in this regard. FDI and exports have a bit lesser role in the economy of Pakistan.
So we can conclude that the growth we have achieved in the last four decades was backed by all of the four variables and debt is one of them which have to be paid back to the lenders. No doubt it affect our economy in a positive direction now but the problem will be its repayment. When we are going to repay this loan we have to pay it along with debt services which is currently almost 40% of our total annual budget as per the budget 2019-20.
In almost Rs 7 trillions of the total expenditure of the current fiscal year budget, about Rs 2.8 trillion goes into the debt servicing which put a great question mark on the social development of the nation.

Policy recommendations

Based on this study, my recommendations would be that government of Pakistan should utilized its external debt properly so that the advantages we take in shot run may be extended to the long run and so the nation do not bear its cost by such a huge amount in debt services in every fiscal year budget.

Secondly as the study have found that remittances have the highest rule in the building-up of the economy so government of Pakistan should give proper incentives to the overseas Pakistanis i.e. make it easier for them to send money through various channels, make their business easier in abroad and to stop the illegal ways of money transfer to the country.

Thirdly FDI also has has a key role in the building up of the economy so the government of Pakistan should create a proper environment to the foreigners and domestic investors so that they could invest their money without the fear of loss. In this regard the government and the policymakers should assure the investors and make its position better in the world ranking of ease of doing business.

In last but not the least, we have to improve our exports, as the study has founded that it has a bit lesser rule in the economy of Pakistan as compared to the other variables. In this regard government should give subsidies to the exporter industries and make their cost of production as much lesser as it can. Government should also apply diplomatic tools to remove the tariffs on its exporting commodities in the international market.

By applying the given strategies Pakistan can control its massive inflow of external debt to the country to finance its internal affairs by the remaining three variables as these could replace the influence of debt on the economy through an impressive way.

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